

quadratic Guassian, H-infinity and mu synthesis;

wherein, upon the detection of said at least one parameter of displacement by said sensors, said sensors signal said circuit, which, in response, utilizing said control technique activates said actuators to stabilize the wafer stage base to minimize vibration.

Please cancel Claims 6 and 7.

Please amend Claim 9 as follows:

9. (Amended) A motion control system for use with a lithography system, said motion control system comprising:

a wafer stage base;

at least two actuators for controlling motion;

at least two sensors for detecting at least one parameter of displacement of said wafer base and producing at least two signals in response thereto;

a signal conditioner; and

a single board computer programmed with a multi-input, multi-output control technique selected from the following group of control techniques: linear quadratic Guassian, H-infinity and mu synthesis;

wherein, upon the detection of said at least one parameter of displacement by said sensors, said sensors feed a signal to said signal conditioner, said signal conditioner feeds a signal to said single board computer, and said single board computer commands said actuators to command said wafer stage to track a commanded position.

#### REMARKS

The title and abstract have been corrected and the claims have been corrected as suggested by the Examiner to resolve the Section 112 deficiencies.

#### Section 102 Rejection

The independent claims have been limited to distinguish them from the referenced prior art. There is, to the best of Applicants' knowledge, no suggestion in the prior art for using the specified multi-input, multi-output control techniques claimed by Applicants for lithography